

# Notes on the Birds of Canton Island.

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The Phoenix Islands, of which Canton Island is one, were visited in June and July, 1889, by J. J. Lister, M.A., F.Z.S., who made a study of the bird life of the group, a full account of which appeared in the Proceedings of the Zoological Society, 1891. The following notes made by the writer, while visiting Canton Island as a member of the N.Z. Total Solar Eclipse Expedition from 27th May to 8th June, 1937, will, it is hoped, amplify Lister's account and also provide a basis for comparison of such changes as have occurred during the last 48 years. As would be expected in a remote oceanic island inhabited only by sea-birds and a few passing migrants and practically, if not wholly, undisturbed by human beings during the period, the changes are few; the most noticeable being the complete absence of Wideawake Terns, described by Lister as being present and breeding in large numbers. All other species described by Lister were observed, with the exception of the migratory Turnstone and Sandpiper, while the only species observed which was not noted by Lister was *Fregeta magnificens*. Since the Eclipse Expedition's visit to Canton Island, the island has come into prominence as a probable future air-base and is now permanently occupied by both British and Americans, for which reason the conditions of bird life in the future may be expected to be greatly modified.

Canton Island lies in a comparatively dry, rainless belt; it is situated about 3° south of the equator and roughly 1,100 miles N.N.E. of Fiji. It is a low-lying coral atoll roughly 7 miles in length by 4 miles in width; the lagoon (to which there is one narrow entrance only) occupies about 25 square miles, while the surrounding coral fringe which comprises the island varies from 200 to 500 yards in width, with a maximum height above sea level of approximately 20 feet. At the time of our visit the island was entirely waterless, although Lister refers to pools of fresh water at which the Frigate Birds used to drink: it is also treeless, with the exception of six coconut-palms; other vegetation consists of low bushes with coarse grass and a few trailing shore plants, but about two-thirds of the area is totally devoid of vegetation of any kind, and consists of areas of large lumps of broken coral interspersed here and there with areas of guano sand.

Trinomial names according to Peter's Checklist of the Birds of the World are used in referring to the various species; in some cases the correctness of these has been checked by Mr. R. A. Falla from specimens brought back from the island, but this has not been possible in all cases; identification of the remainder has been made without a full and critical checking up of specimens.

The collection of skins and eggs brought back, which is now in the reference collection of the Auckland Museum, is detailed below.

## SKINS.

Species.	Reference Number.	Sex.
<i>Puffinus pacificus chlororhyncus</i>	A.M. 131.12	♀
<i>Puffinus nativitatis</i>	A.M. 1319.1	♂
	A.M. 1319.2	♀
<i>Puffinus lherminieri dichrous</i>	A.M. 1320.1	♀
	A.M. 1320.2	♂
<i>Pterodroma alba</i>	A.M. 946.1	♀
	A.M. 946.2	♂
<i>Sterna lunata</i>	A.M. 1321.1	♀
	A.M. 1321.2	♂
<i>Gygis alba candida</i>	A.M. 89.16	♂
<i>Numenius tahitiensis</i>	A.M. 334.2	♂
	A.M. 334.3	♀
<i>Pluvialis dominica fulva</i>	A.M. 69.31	♂
	A.M. 69.32	♀
	A.M. 69.33	♀

## EGGS.

Species.	Reference Number.	Clutch.
<i>Phaeton rubricauda</i>	A.M. 110.19 to 110.21	1
<i>Sula dactylatra personata</i>	A.M. 104.5 to 104.8	2
<i>Sula leucogaster plotus</i>	A.M. 102.3 to 102.4	2
<i>Sula sula rubripes</i>	A.M. 1329.2 to 1329.6	1
<i>Fregeta minor palmerstoni</i>	A.M. 111.7 to 111.12	1
<i>Sterna lunata</i>	A.M. 1321.3 to 1321.12	1
<i>Gygis alba candida</i>	A.M. 89.19 to 89.23	1
<i>Anous stolidus pileatus</i>	A.M. 1098.2 to 1098.7	1

Note: This collection was made between 27/5/37 and 8/6/37.

## PROCELLARIIFORMES.

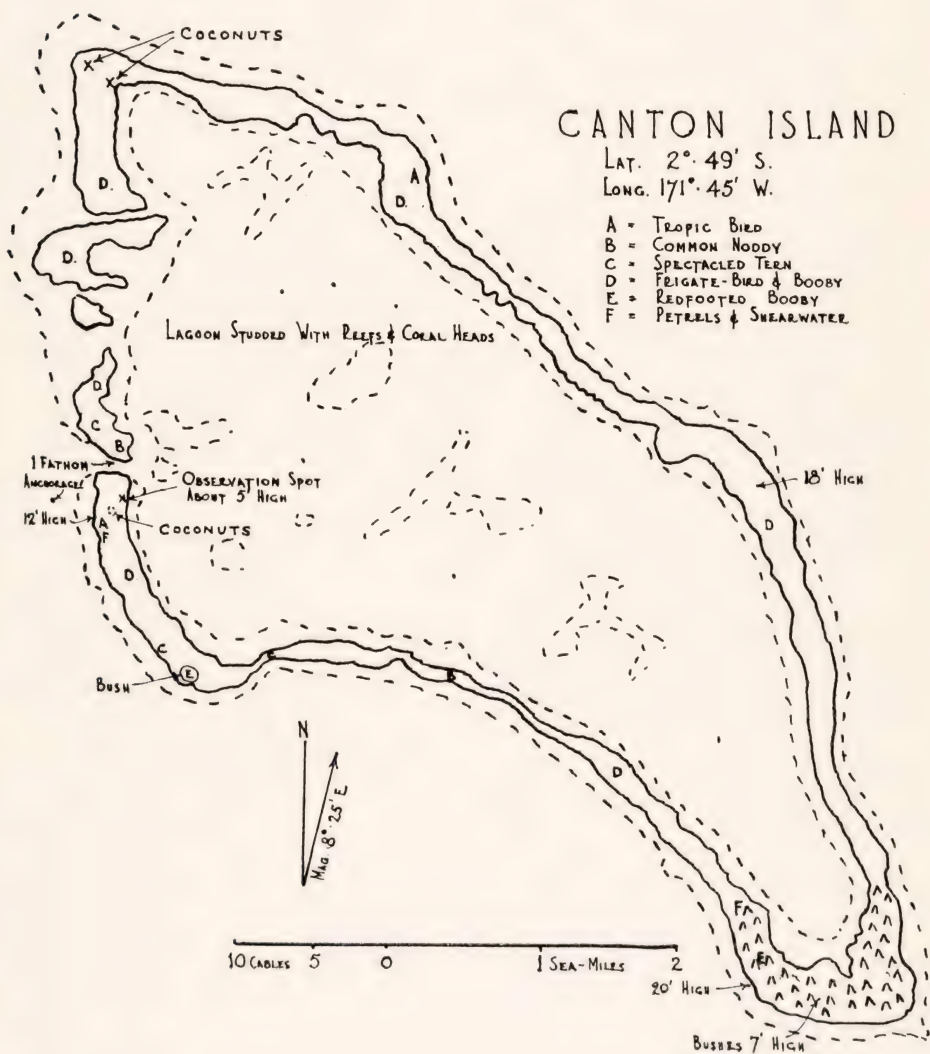
Members of this order were not by any means plentiful on Canton Island, the numbers of the four species identified being very few, and so far as I was able to observe were confined to two small sandy areas each about one acre in extent, one near the entrance to the lagoon and the other near the S.E. corner of the island, where I observed a number of burrows; which, however, at that date appeared to be unoccupied. Specimens of all four species, including the non-burrowing, were obtained in the breeding ground near the camp. It would appear that although preparations for breeding were in progress, none of the species had yet commenced, which coincides with Lister's observations.

***Puffinus pacificus chlororhyncus.* Lesson 1831.**

One pair only of the Wedge-Tailed Shearwater was observed. This pair was found (by day) occupying a partly constructed burrow about 18 inches in length, in close proximity to the burrows of *P. dichrous*. Evidently breeding had not yet commenced.

***Puffinus nativitatis.* Streets 1877.**

Two pairs only of the Christmas Shearwater were observed. One pair were mating and preparing to nest in a crevice in coral rock at the edge of the *P. dichrous* colony, where they were to be found during the day. After being disturbed by photographic operations they disappeared for some days, but were later found



at night sitting together on the sand amongst the *P. dichrous* burrows. The other pair had their home beneath a large pile of coconuts at the base of one of the palms. They could be heard crooning at daylight and at dusk. Nesting had not yet started.

***Puffinus lherminieri dichrous.*** Finsch and Hartlaub 1867.

The Dusky Shearwaters were seen only at night; soon after dusk they commenced to come ashore and were found in pairs outside the nesting burrows, of which there were probably fifty in this colony. They were employed in clearing out the burrows, and mating was in progress, but egg laying had not yet started.

***Pterodroma alba*** (Gmelin) 1789.

Several Phoenix Petrels were to be seen in pairs every afternoon from about four o'clock onwards, wheeling and circling over the area occupied by the Dusky Shearwaters. They kept this up till late at night, and I never observed one at rest on the ground; specimens were obtained by shooting.

**PELECANIFORMES.**

***Phaeton rubricauda*** Boddaert (subsp.?) 1783.

The Red-Tailed Tropic-bird appears to be more plentiful than would be expected from Lister's description; there was a large colony of probably forty pairs breeding under the shelter of large blocks of coral close to the Eclipse party's camp, and odd birds and small colonies were found on all parts of the island that I visited, some amongst the coral and others on the sand beneath the stunted bushes. Laying commences early in May, and the season appears to be short; I found a few very young birds, and the majority of eggs well incubated.

***Sula dactylatra personata.*** Gould 1846.

The Blue-Faced Booby was the commonest of the three species on the island. The normal clutch is two eggs, and no nest is made, the eggs being deposited in a depression in the sand. They do not breed in compact colonies, but scattered at intervals, usually amongst the colonies of Frigate-birds, and I noticed that nests were never left unattended, one or both birds being always in attendance. The breeding season is extended; judging by the condition of eggs examined it must have been started early in May, but many birds were still courting.

***Sula leucogaster plotus.*** Forster 1844.

The Brown Booby was not common. Several pairs had young by the first week in June, but some had fresh eggs (normal clutch 2). The nests, fairly substantial structures of twigs, sticks and seaweed, were placed directly on the sand, but none on bushes, as described by Lister.

***Sula sula rubripes*. Gould 1838.**

The Red-Footed Booby was very plentiful. Lister describes them as nesting not in colonies but scattered here and there; however, I observed several large colonies, one in particular, in the scrub at the S.E. end of the island, and another on the north side, as well as large numbers scattered throughout the Frigate-bird colonies. The nests were always placed on top of *Sida* bushes or in the branches of the *Tournefortia*, never on the ground. Only one egg is laid, and the breeding season is very prolonged; many young were fully fledged, while some birds were still nest building.

***Fregeta magnificens magnificens*. Mathews 1914.**

Specimens were occasionally observed flying with the Greater Frigate Bird, but were never seen to land, and apparently did not breed on Canton Island.

***Fregeta minor palmerstoni*. Gmelin 1789.**

Of the bird population of Canton Island, the Frigate Birds far outnumber all other species; their nests were to be found on every part of the island visited, sometimes in closely packed groups and sometimes scattered over a wide area. The nests were placed on top of small scrub or on beaten down tussocks, or occasionally directly on coral. Nests are fairly solidly built and are apparently added to year by year. I observed no nest with more than one egg or young, although Lister reports that on Phoenix Island he saw several with two eggs. Many young were fully fledged; young in down were plentiful, as well as fresh eggs. Peale's opinion that there is no definite period for the nesting of this species in equatorial regions is certainly borne out by the conditions at Canton Island. This applies with almost equal truth to the Red-Footed Booby. Notwithstanding the fact that the bulk of their food is obtained by robbery of Boobies and Terns, the nests of all species of Booby are scattered about in close proximity to those of the Frigate birds. On many occasions I observed Frigate birds (usually immature) robbing the nests of their own kind, as well as the Boobies of eggs. The bird would hover over a cluster of nests till one was left unattended, when it would swoop down, seize the egg in its bill, and soar aloft, where the contents of the egg would be swallowed and the broken shell dropped. A great many young were seen with severe wounds on the back caused by a marauding Frigate bird attempting to seize them from the nest.

**LARIDAE.*****Thalasseus bergii cristatus*. Stephens 1826.**

A pair of these large Crested Tern were seen occasionally flying over the outer reef, but no detailed observations were possible.

***Sterna fuscata oahuensis*. Bloxham 1826.**

No Wideawake Terns were seen during our stay on Canton Island, which is remarkable, as Lister reports them present in thousands, and breeding in large colonies; and both Arundel and Hague say that they have two laying seasons in the year at the Phoenix Group. I find the following in my field notes dated May 25th, 1937:—"H.M.S. Wellington, at sea; about 2 p.m. arrived off Carondelet reef, which we steamed round at a distance of about half a mile. Birds were working over schools of fish in the lee of the reef. Amongst them I noticed numbers of Wideawake Terns, Black Naped Terns, Frigate Birds and Boobies . . . after dark, birds could be heard flying over the ship in large numbers, and the Captain kindly had a searchlight switched on, by the light of which we could see hundreds of Wideawake Terns. When caught in the beams of the searchlight they glistened like silver stars, and twisted, wheeled, and dived in an effort to avoid the rays of light, reminding one very strongly of bombing planes in France during the war. The birds were all travelling towards the N.E.; Hull Island, the nearest member of the Phoenix Group, lying about 50 miles distant in that direction, and Canton Island 150 miles to the north."

It appears that since Lister's time the Wideawakes have for some reason deserted Canton Island as a breeding ground.

***Sterna lunata*. Peale 1848.**

The Spectacled Terns were found in vast numbers, as described by Lister. There was a large colony of several thousand birds breeding about a mile to the south of the camp on the in-shore slope of the island, with a small overflow colony on the outer beach about half a mile distant, and another very large one to the north of the passage. No nest is made, and the single egg is deposited on a bare patch of coral shingle. The eggs are laid at intervals of a few feet, and quarrels and bickerings amongst the birds are incessant. The eggs are extraordinarily difficult to detect and provide a perfect example of protective coloration and marking. On 28th May breeding appeared to be at its height; no young were to be seen, and all eggs examined were fresh. This species seems to have a very definite laying date.

***Sterna anaethetus anaethetus*. Scopoli 1786.**

Several pairs were seen amongst a large colony of Spectacled Tern, but no sign of nesting was discovered.

***Sterna sumatrana sumatrana*. Raffles 1822.**

The Black-naped Tern was frequently seen in small flocks fishing over the waters of the lagoon, and occasionally nesting on the sandy shore, but, like Lister, I failed to locate any nests.

***Gygis alba candida* (Gmelin) 1789.**

The White Tern was quite common and fairly well distributed over the island. The customary type of nesting place (i.e., on the branches of trees) not being available, it here selects a slight depression near the edge of a large block of coral on which to deposit the single egg. No nest is made. Laying evidently commences early in May, as many young were hatched by first week of June, although some fresh eggs were still to be found. They do not breed in colonies, but each pair has its own particular bit of territory.

***Anous stolidus pileatus* (Scopoli) 1786.**

The Noddy was fairly evenly distributed over the island, not anywhere in great numbers. A small colony of perhaps 50 birds were nesting in a salt marsh just to the north of the passage into the lagoon. Isolated nests were found over the greater part of the island; sometimes a fairly substantial nest of twigs under the shelter of an overhanging lump of coral, sometimes merely a depression on top of the rock. A fairly extended laying season is indicated by the finding of young already losing the down, and eggs at all stages of incubation. This agrees with Lister's observation that in July he found only half-fledged young.

***Procelsterna cerulea nebouxi* (Mathews) 1912.**

The Blue-Grey Noddy was not common, but several pairs were observed in different parts of the island; although they were evidently mated, I was unable to find the nest. Lister reports finding the egg in July.

**SCOLOPACIDAE.*****Numenius tahitiensis* (Gmelin) 1789.**

The Bristle-thighed Curlew was reported by Lister as fairly abundant and going about in parties of six or eight. At the time of our visit, which was about four weeks earlier in the year, all the birds that I saw were in pairs, like the Golden Plover. One pair, in particular, by their behaviour, gave me a strong impression that they were nesting; most of the birds were fairly timid and would fly off when one approached within 50 yards or so, but this pair were constantly to be seen in one locality, and would not be driven away from it, merely moving out of sight amongst the rocks and returning to the area again immediately the ground was clear. However, I failed to find the nest.

The Curlew divided their time fairly evenly between the tidal waters and the sandy flats above tide level, where they appeared to find plenty of food.

**CHARADRIIDAE.*****Pluvialis dominica fulva* (Gmelin) 1789.**

Golden Plover were present in fair numbers. Many of the males had assumed the breeding plumage, and all that I observed were in pairs, although Lister refers to the birds being in squads. Although the birds were occasionally seen feeding on the sandy shores of the lagoon and on the outer reef, the bulk of them were to be seen on the sandy flats above tide level, amongst the Frigate birds and Boobies. Here they apparently secured the bulk of their food, which consisted of small lizards about two inches in length.





Fig. 1. Spectacled Tern (*Sterna lunata*).

Fig. 2. Christmas Shearwater (*Puffinus nativitatis*) on nest.

Fig. 3. Dusky Shearwater (*Puffinus lherminieri dichrous*) at entrance to nesting burrow.

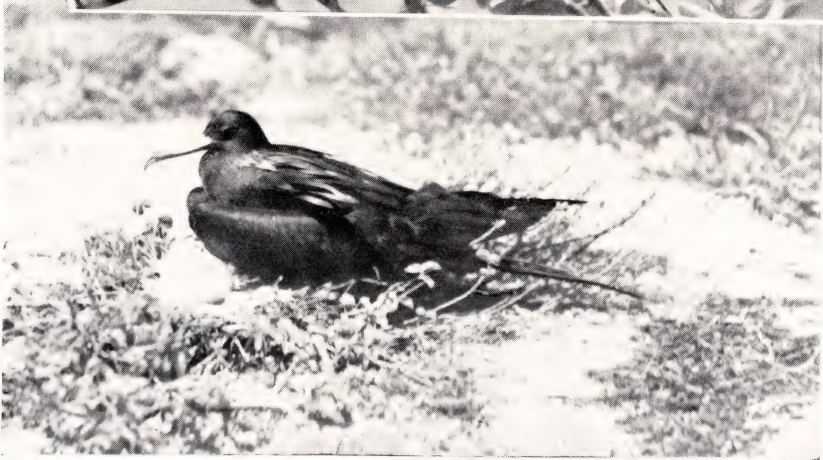
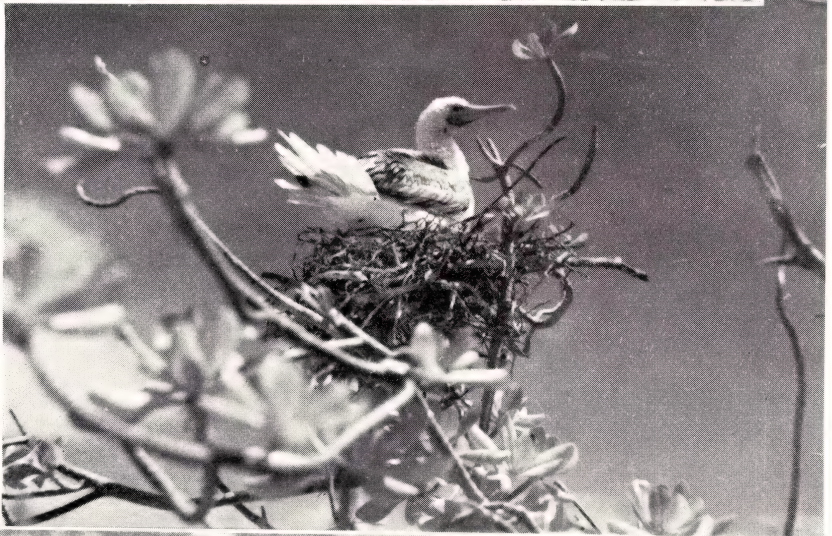


Fig. 1. Brown Booby (*Sula leucogaster plotus*) approaching nest.  
Fig. 2. Red-footed Booby (*Sula sula rubripes*) on nest.  
Fig. 3. Male Frigate Bird (*Fregata minor palmerstoni*) on nest with young.